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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.	
09/786,626	10/11/2001	Keiichi Tanaka	0234-0421P	3843	
2292 7	590 03/11/2005		EXAM	EXAMINER	
BIRCH STEWART KOLASCH & BIRCH			JOHNSON, E	JOHNSON, EDWARD M	
PO BOX 747 FALLS CHUR	.CH, VA 22040-0747		ART UNIT	PAPER NUMBER	
	,		1754		

DATE MAILED: 03/11/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

			111
	Application No.	Applicant(s)	
	09/786,626	TANAKA ET AL.	
Office Action Summary	Examiner	Art Unit	
	Edward M. Johnson	1754	
The MAILING DATE of this communication app Period for Reply	ears on the cover sheet with the (orrespondence address	S
A SHORTENED STATUTORY PERIOD FOR REPLY THE MAILING DATE OF THIS COMMUNICATION. - Extensions of time may be available under the provisions of 37 CFR 1.13 after SIX (6) MONTHS from the mailing date of this communication. - If the period for reply specified above is less than thirty (30) days, a reply - If NO period for reply is specified above, the maximum statutory period w - Failure to reply within the set or extended period for reply will, by statute, Any reply received by the Office later than three months after the mailing earned patent term adjustment. See 37 CFR 1.704(b).	36(a). In no event, however, may a reply be ting within the statutory minimum of thirty (30) day will apply and will expire SIX (6) MONTHS from a cause the application to become ABANDONE	mely filed ys will be considered timely. In the mailing date of this commun ED (35 U.S.C. § 133).	nication.
Status			
 1) Responsive to communication(s) filed on 24 No. 2a) This action is FINAL. 2b) This 3) Since this application is in condition for allowar closed in accordance with the practice under Exercise. 	action is non-final. nce except for formal matters, pre-		rits is
Disposition of Claims			
4) ⊠ Claim(s) <u>1-3,5-8,12-16,18-22 and 26</u> is/are per 4a) Of the above claim(s) is/are withdray 5) □ Claim(s) is/are allowed. 6) ⊠ Claim(s) <u>1-3,5-8,12-16,18-22 and 26</u> is/are rejection of the company of	vn from consideration.		
Application Papers			
9) The specification is objected to by the Examine 10) The drawing(s) filed on is/are: a) access applicant may not request that any objection to the Replacement drawing sheet(s) including the correct 11) The oath or declaration is objected to by the Examine	epted or b) objected to by the drawing(s) be held in abeyance. Se ion is required if the drawing(s) is ob	e 37 CFR 1.85(a). ojected to. See 37 CFR 1.	
Priority under 35 U.S.C. § 119			
 12) Acknowledgment is made of a claim for foreign a) All b) Some * c) None of: 1. Certified copies of the priority documents 2. Certified copies of the priority documents 3. Copies of the certified copies of the priority application from the International Bureau * See the attached detailed Office action for a list of the certified copies of the attached detailed Office action for a list of the certified copies 	s have been received. s have been received in Applicat rity documents have been receiv u (PCT Rule 17.2(a)).	ion No ed in this National Stag	e
Attachment(s) 1) Notice of References Cited (PTO-892)	A) 🗖 Intonion Sur	(PTO 413)	
 Notice of References Cited (PTO-892) Notice of Draftsperson's Patent Drawing Review (PTO-948) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date <u>11/04</u>. 	4) Interview Summary Paper No(s)/Mail D 5) Notice of Informal F 6) Other:)

Part of Paper No./Mail Date 20050307

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DETAILED ACTION

Claim Rejections - 35 USC § 103

- 1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:
 - (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.
- 2. Claims 1-2, 6-8, 12-16, 18-22, and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Murasawa 5,547,823 in view of Eckberg US 5,583,195.

Regarding claims 1, 15, and 19, Murasawa '823 discloses a photocatalyst composited with a polymer having an anionic group (see Example 1), which would inherently attract a positive charge, for waste purification (see column 1, lines 47-51), and 0.8 g of polymer in 23.6 g solution (see Example 1).

Regarding claims 7-8, Murasawa '823 discloses photocatalyst composited with a polymer having an anionic group (see Example 1), which would inherently attract a positive charge, for waste purification (see column 1, lines 47-51), 0.8 g of polymer in 23.6 g solution (see Example 1), mixing, coating, and drying (see Example 1).

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Regarding claims 1, 7-8, 15, and 19, Murasawa '823 fails to disclose a poly(fluorine-substituted sulfonic acid).

Eckberg '195 discloses coatings (see column 4, lines 43-48) of fluoro sulfonic acid polymer (see paragraph bridging columns 5-6).

It is considered that it would have use the fluoro sulfonic acid polymer of Eckberg to coat the photocatalyst of Murasawa because Eckberg discloses his polymers to coat photocatalysts in order to advantageously increase the quantum efficiency of photo-catalysts and overcome poor solubility (see column 3, lines 19-26) and because Murasawa discloses mixing specifically with "fluorinated polymers" (see column 3, lines 38-50).

Regarding claim 2, Murasawa '823 discloses linear polymers (see column 3, lines 52-55).

Regarding claim 6, Murasawa '823 discloses a substrate (see abstract).

Regarding claims 12-14, 18 Murasawa '823 discloses titanium oxide (see abstract).

Regarding claim 16, Murasawa '823 discloses sheets (see column 4, lines 59-64).

Regarding claims 20-22, Murasawa '823 discloses waste purification (see column 1, lines 47-51).

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Regarding claim 26, Murasawa '823 discloses 0.8 g of polymer in 23.6 g solution (see Example 1).

3. Claims 3 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Murasawa in view of Eckberg as applied to claims 1-2 above, and further in view of Heller et al. US 5,854,169.

Regarding claim 3, Murasawa fails to disclose a particle size of 0.04-1 micron.

Heller '169 discloses a particle diameter of 1-50 nm (see column 8, lines 39-41).

It is considered that it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the 1-50 nm particle size of Heller in the photocatalyst of Murasawa because Heller discloses the 1-50 nm particle size to make a useful self-cleaning paint composition and for adhering larger, light scattering particles to a surface (see column 8, lines 53-56).

Regarding claim 5, Heller '169 discloses a particle diameter, which would obviously, to one of ordinary skill, at least suggest a sphere rather than a form with a length, width, or height.

Response to Arguments

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4. Applicant's arguments filed 11/24/04 have been fully considered but they are not persuasive.

Applicant's arguments with respect to the claims have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Edward M. Johnson whose telephone number is 571-272-1352. The examiner can normally be reached on M-F 9:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stanley S. Silverman can be reached on 571-272-1358. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 571-272-0987.

Edward M. Johnson

1 W/M _

Examiner

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EMJ